

WE CLAIM:

- 1 1. A method for proactively monitoring a healthcare information
2 system, the method comprising:

3 monitoring one or more performance parameters of the healthcare
4 information system by recording the values of the parameters by one of a plurality
5 of counters;

6 comparing the value of the counters to thresholds; and

7 notifying a designated representative if the value of one of the plurality of
8 counters exceeds one of the thresholds.
- 1 2. The method of claim 1, wherein the monitoring comprises polling
2 the values of the parameters at a predetermined interval.
- 1 3. The method of claim 1, wherein said performance parameters
2 comprise system performance parameters describing operational characteristics of
3 the healthcare information system and business performance parameters describing
4 operational characteristics of data processed by the healthcare information system.
- 1 4. The method of claim 3, wherein the system performance parameters
2 are selected from the group consisting of free space on disk drives, status of power
3 supply, status of network card, status of print queues, status of database backups,
4 transaction logs of the database, number of outstanding database locks, status of

5 SQL Server, status of SQL Server Agent, status of Microsoft Message Queue
6 (MSMQ), status of Internet Information Server (IIS), network transaction
7 throughput, CPU utilization, average response time of the user interface, repeated
8 attempts to gain access to the system, and repeated attempts to gain unauthorized
9 access to privileged data.

1 5. The method of claim 3, wherein the business performance
2 parameters are selected from the group consisting of number of waiting patients,
3 size of order entry queue, overdue diagnostic reports, and count of unresolved
4 billing exceptions.

1 6. The method of claim 1, wherein the designated representative is an
2 automated system.

1 7. The method of claim 1, wherein the designated representative is a
2 user of the healthcare information system.

1 8. The method of claim 1, wherein the designated representative is a
2 customer support representative of the healthcare information system.

1 9. The method of claim 1, wherein the notifying comprises routing a
2 notification to a designated representative responsible for the healthcare
3 information systems.

1 10. The method of claim 1, wherein the notifying comprises routing a
2 notification to a designated representative responsible for the counter that
3 exceeded the threshold.

1 11. The method of claim 1, wherein the threshold is defined by a user of
2 the healthcare information system.

1 12. The method of claim 1, wherein the threshold is defined by a
2 customer support system of the healthcare information system.

1 13. The method of claim 1, further comprising:

2 receiving from the designated representative an acknowledgement of receipt
3 of the notification and an instruction of an action to be performed on the healthcare
4 information system; and

5 performing the action to bring the value of the one of the plurality of
6 counters back within the predetermined threshold.

1 14. The method of claim 1, wherein the notifying further comprises
2 escalating the notification to a designated representative of a higher tier, when no
3 acknowledgement is received after a predetermined period.

1 15. The method of claim 1, wherein the monitoring further comprises
2 implementing one or more counter instances, capable of monitoring and recording

3 specific aspects of a counter of the plurality, wherein the counter is a generic
4 counter object.

1 16. The method of claim 1, wherein the comparing comprises
2 transforming one of the performance parameters to a numeral, the numeral capable
3 of being recorded by a counter.

1 17. The method of claim 1, further comprising displaying a user
2 interface illustrating relationships between the counters and the thresholds.

1 18. A system for proactively monitoring a healthcare information
2 system, the system comprising:

3 a plurality of counters, each of which capable of monitoring one of a
4 multiplicity of performance parameters by recording the values of the one
5 parameter; and

6 one or more notification agents, the agent capable of notifying a designated
7 representative when the value of one of said plurality of counters exceeds a
8 threshold.

1 19. The system of claim 18, further comprising an operator, capable of
2 performing an action, in response to an instruction from the designated
3 representation that the action be performed on the healthcare information system,
4 to bring the value of the one of the plurality of counters back within the threshold.

1 20. The system of claim 19, wherein the operator is a human, wherein
2 the action is performed manually.

1 21. The system of claim 20, wherein the operator is an automated
2 system, wherein the action is performed automatically.

1 22. The system of claim 18, wherein the plurality of counters poll the
2 values of the performance parameters at a predetermined interval.

1 23. The system of claim 18, wherein the performance parameters
2 comprise system performance parameters describing operational characteristics of
3 the healthcare information system and business performance parameters describing
4 operational characteristics of data processed by the healthcare information system.

1 24. The system of claim 23, wherein the system performance parameters
2 are selected from the group consisting of free space on disk drives, status of power
3 supply, status of network card, status of print queues, status of database backups,
4 transaction logs of the database, number of outstanding database locks, status of
5 SQL Server, status of SQL Server Agent, status of Microsoft Message Queue
6 (MSMQ), status of Internet Information Server (IIS), network transaction
7 throughput, CPU utilization, average response time of the user interface, repeated
8 attempts to gain access to the system, and repeated attempts to gain unauthorized
9 access to privileged data.

1 25. The system of claim 23, wherein the business performance
2 parameters are selected from the group consisting of number of waiting patients,
3 size of order entry queue, overdue diagnostic reports, and count of unresolved
4 billing exceptions.

1 26. The system of claim 18, wherein the designated representative is a
2 human or an automated system.

1 27. The system of claim 18, wherein the designated representative is a
2 user of the healthcare information system.

1 28. The system of claim 18, wherein the designated representative is a
2 customer support representative of the healthcare information system.

1 29. The system of claim 18, wherein the notification agent is capable of
2 routing a notification to a designated representative responsible for the counter of
3 the plurality that exceeded the threshold.

1 30. The system of claim 18, wherein the notification agent is capable of
2 routing a notification to a designated representative responsible for the healthcare
3 information systems.

1 31. The system of claim 18, wherein the threshold is defined by a user of
2 the healthcare information system.

1 32. The system of claim 18, wherein the threshold is defined by a
2 customer support system of the healthcare information system.

1 33. The system of claim 18, wherein the one or more notification agents
2 are further capable of escalating the notification to a designated representative of a
3 higher tier, when no acknowledgement is received after a predetermined period.

1 34. The system of claim 18, wherein at least one of the plurality of
2 counters is a generic counter object, wherein the generic counter object is capable
3 of implementing one or more counter instances to monitor specific aspects of the
4 corresponding performance parameters.

1 35. The system of claim 18, wherein at least one of the plurality of
2 counters is capable of transforming one of the performance parameters to a
3 numeral, the numeral capable of being recorded by a counter.

1 36. The system of claim 18, further comprising a first user interface,
2 capable of illustrating relationships between the counters and the thresholds.

1 37. The system of claim 36, further comprising a second user interface,
2 capable of illustrating relationships between the counters and the thresholds,
3 wherein the first user interface is connected to a user of the healthcare information
4 system, wherein the second user interface is connected to a customer support
5 system of the healthcare information system.

1 39. A computer program product implementing the system of claim 18.

1 40. A computer readable medium having recorded thereon information
2 on (i) the plurality of counters, (ii) the thresholds, and (iii) the designated
3 representatives, of the system of claim 18.